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# Mortality in an ophthalmic ward at a tertiary eye unit in Zimbabwe

R MASANGANISE, A MASHOKO

## Abstract

**Objective:** To review and determine the attributed causes of deaths among patients who died in Sekuru Kaguvi Hospital (SKH) Eye Unit Wards between August 1984 and October 2008.

**Study Design:** Retrospective study of completed BD12 forms and case records of inpatients who died between August 1984 and October 2008.

**Setting:** Sekuru Kaguvi Hospital Eye Unit, Parirenyatwa Group of Hospitals, Harare, Zimbabwe.

**Results:** Eighty three deaths occurred in the unit during the 24 year period, 51% were females and 33.7% were children below 13 years of age. Ninety three percent of deaths among children were attributed to neoplasias, while 22% of deaths among adults were attributed to infections. Non-ophthalmic causes of deaths were seen among adults.

**Conclusion:** Malignancies are the commonest attributable causes of mortality in the Ophthalmic Wards at Sekuru Kaguvi Hospital Eye Unit. Resource mobilization is essential to improve Eye Care Services.

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## Introduction

Ocular problems the world over have not drawn the attention they deserve outside the "Vision 2020 Programme" because of the associated negligibly low mortality rate. This has resulted in little if any funding at all being allocated for Eye Care Services by Central Governments outside the first world. Knowledge of the causes and rate of mortality among patients admitted to a tertiary eye unit in Zimbabwe would be of immense value in lobbying for funding and resource mobilization for Eye Care Services from Central Government.

Traditionally Ophthalmic Wards are known to have the lowest mortality figures in hospitals the world over. Studies done in West Africa have confirmed low mortality figures in Ophthalmic Wards where orbital

cellulites and orbital malignancies were among the leading causes of death.<sup>1,2</sup>

Anecdotal reports in Zimbabwe suggest that we have higher mortality figures and different patterns of leading causes of mortality in our Ophthalmic Wards when compared to other units in Africa.

The aim of this audit was to review all case records of patients who died in SKH Eye Unit Wards between August 1984 and October 2008 and determine the attributed causes of those deaths.

## Materials and Methods

All case records of patients who died in the Ophthalmic Wards at SKH Eye Unit and recorded in the BD12 were

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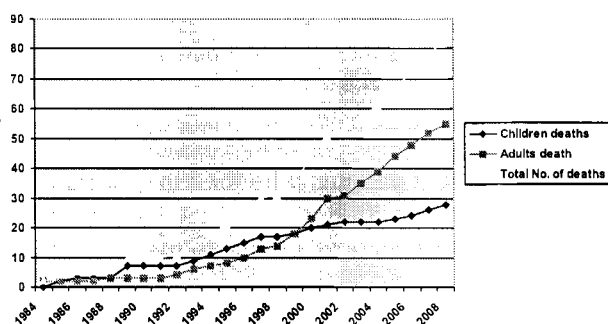
analyzed. Age, gender, diagnosis, stage of malignancy and cause of death were noted and recorded. Statistical analysis was done using Epi Info Version 6.

## Results

A total of 83 deaths occurred in the Ophthalmic Wards at SKH Eye Unit during the period under review. Fifty one percent were females, the mean age was 30.85 years (range: 3 months to 84 years), 33.7% of deaths were below the age of 13 years.

Figure I shows cumulative mortality figures for all deaths, adults and children. The curves display an exponential pattern typical of growth curves.

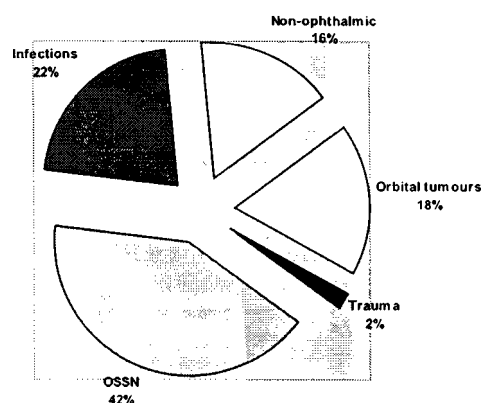
Figure I: Cumulative mortality figures for Sekuru Kaguvi Eye Unit wards over the last 25 years.



Retinoblastomas 82% (23/28) and rhabdomyosarcomas 10.7% (3/28) were the leading attributable causes of death among children below 13 years of age.

Figure II summarizes the attributable causes of deaths among the 55 adults. Malignancies accounted for 60% (33/55) of deaths, orbital infections 22% (12/55) and non-ophthalmic causes accounted for 16% (9/55).

Figure I: Attributed causes of death among adult patients.



Key: OSSN ocular surface squamous neoplasia.

## Discussion

On average three to four patients die in Ophthalmic Wards at SKH Eye Unit in Zimbabwe per year. The numbers have been on the increase of late as illustrated by the exponential pattern of the curves in Figure I. The increase is attributed to the epidemic of ocular surface squamous neoplasias (OSSN) Zimbabwe is experiencing.<sup>3,4</sup> OSSN has been shown to be HIV related<sup>5,6</sup> and is curable if surgical intervention is offered early.<sup>7</sup> All patients who died with OSSN had clinical stage T4N1Mx poorly differentiated tumours, hence the poor prognosis. The need to have OSSN Screening Programmes running in conjunction with ART Programmes cannot be underscored if measures to avert the impact of this disease on mortality have to be meaningful.

Retinoblastomas are curable and they respond very well to treatment with survival rates above 95% in the Western World when disease is still localized within the eye.<sup>7</sup> Unfortunately our patients present late with advanced disease clinical stage T4N1Mx and our resources are limited, hence the high mortality figures related to this condition. Early detection of affected patients and mobilization of financial and material resources to secure appropriate chemotherapeutic agents and radiotherapy would reduce ophthalmic related childhood mortality significantly.

Orbital infections are an emergency because the orbital region is a water shade area with some veins draining intracranially to the cavernous sinus. This exposes patients to a great risk of developing fatal intracranial infection spreading from the orbits through venous drainage. Mortality as a result of orbital infections is avoidable especially if the patient is admitted to the ward. Early diagnosis and immediate institution of appropriate broad-spectrum combination antibiotics intravenously to cover for both gram positive and gram negative organisms are of essence. The selection of the antibiotics should be guided by local culture and sensitivity patterns. Careful monitoring of patient's neurological status, temperature and other vital signs cannot be underscored. It is interesting to note that all those who died of orbital infections in our study were adults without any communication problems.

## Recommendations

1. Ophthalmic patients like all other patients require proper evaluation before admission to the ward to exclude other life threatening medical conditions that cannot be properly managed in ophthalmic wards.
2. Mortality due to OSSN and retinoblastomas is avoidable. Screening of 'at risk' groups should be mandatory for early detection of disease and institution of appropriate therapy.
3. Resources should be mobilized to establish a national ocular oncology clinic at SKH Eye Unit.

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